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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/576,059	06/29/2006	Reinhard Lantzsch	CS8783BCS033062	2159

34469 7590 07/19/2007  
BAYER CROPSCIENCE LP  
Patent Department  
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RESEARCH TRIANGLE PARK, NC 27709

EXAMINER
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CHO, JENNIFER Y

ART UNIT	PAPER NUMBER
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1621

MAIL DATE	DELIVERY MODE
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07/19/2007

PAPER

**Please find below and/or attached an Office communication concerning this application or proceeding.**

The time period for reply, if any, is set in the attached communication.

<b>Office Action Summary</b>	<b>Application No.</b>	<b>Applicant(s)</b>	
	10/576,059	LANTZSCH ET AL.	
	<b>Examiner</b>	<b>Art Unit</b>	
	Jennifer Y. Cho	1621	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

#### Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

#### Status

- 1) ☒ Responsive to communication(s) filed on 30 April 2007.
- 2a) ☒ This action is **FINAL**.      2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

#### Disposition of Claims

- 4) ☒ Claim(s) 8-10 is/are pending in the application.
- 4a) Of the above claim(s) 10 is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 8-9 is/are rejected.
- 7) ☐ Claim(s) \_\_\_\_\_ is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_\_ are subject to restriction and/or election requirement.

#### Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).  
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

#### Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All    b) ☐ Some \* c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
  2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_\_.
  3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

\* See the attached detailed Office action for a list of the certified copies not received.

#### Attachment(s)

- |  |   |
|--|---|
| 1) <input type="checkbox"/> Notice of References Cited (PTO-892)                     | 4) <input type="checkbox"/> Interview Summary (PTO-413)           |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____                                      |
| 3) <input type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08)          | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date _____  | 6) <input type="checkbox"/> Other: _____                          |

### **Detailed Action**

Receipt is acknowledged of the Response filed 4/30/2007.

The original claims 8-10 are pending in this application. Claims 1-7, 11-13 have been cancelled.

Claim 10 stand withdrawn from consideration, being drawn to the non-elected subject matter.

### **Claim Rejections – 35 USC 103**

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 8-9 remain rejected under 35 U.S.C. 103(a) as being unpatentable over Angelov (Synthesis 2003, 14, 2221-2225), in view of Takahashi et al. (US 6,388,124).

Angelov teaches the synthesis of acylamino esters (page 2222, compounds 2). The haloacylamino esters (page 2222, compounds 2) are synthesized from reacting an acid halide with an alkylamino ester (page 2222, compounds 1), in a water-immiscible organic solvent ( $\text{CH}_2\text{Cl}_2$ ) in the presence of a base ( $\text{Et}_3\text{N}$ , triethylamine) (page 2221, second column, second paragraph, first two lines). Angelov also teaches the

equivalency of triethylamine and pyridine in these acylation reactions (page 2221, first column, last paragraph, ninth line down).

However, Angelov does not exemplify the synthesis of 2-dihaloacyl-3-aminoacrylic esters, which contain both halogens and ester groups in the molecule, nor does Angelov teach Applicant's elected base, 2-methyl-5-ethylpyridine.

Nevertheless, Angelov does exemplify the synthesis of compounds that contain halogen groups (page 2222, compounds 2h-2n) and ester groups (page 2222, compounds 2b-2c). Therefore Angelov teaches the equivalency of substituting halogen groups for hydrogen and ester groups for carbonyl groups to synthesize 2-dihaloacyl-3-aminoacrylic esters.

Takahashi et al. teaches the equivalency of triethylamine and 2-methyl-5-ethylpyridine (same as 5-ethyl-2-methylpyridine) (column 3, lines 46-49) in the synthesis of dihalo compounds (see abstract).

The Examiner acknowledges Applicant's argument that Angelov teaches that the reaction is always carried out in the presence of triethylamine, and that a trichloromethyl compound could not successfully withstand the reaction conditions, in comparison to a dichloromethyl compound. The Examiner also acknowledges Applicant's argument that Takashashi et al. is not useful as a teaching reference for the equivalence of triethylamine and pyridine. The Examiner also acknowledges Applicant's argument for unexpected advantages of using pyridine or derivatives thereof, showing yields ranging from 82.3% to 92.1% yield.

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Applicant's arguments have been considered but are not persuasive for the following reasons:

Angelov, the primary reference, expressly teaches equivalency of triethylamine and pyridine for these acylation reactions (page 2221, first column, last paragraph, ninth line down). Thus Angelov, by itself, is sufficient to teach equivalency of these bases in an acylation reaction. In addition, the trichloromethyl end of the acyl halide is not involved in the chemistry of the reaction, and there is no evidence that it is less stable under these reaction conditions than a dichloromethyl substituted acyl halide.

In regards to the product yield comparisons that the Applicant points out in the specification, Applicant's disclosed yields vary, from 74%, when using sodium hydroxide as the base (page 14, second paragraph), to 92.1% yield, when a pyridine derivative is used as the base (page 15, second paragraph). Furthermore, Angelov teaches yields of up to 85% (page 2222, table 1, compounds 2a-h), using their reaction conditions. Thus, there is no substantial difference in yields in comparison to Applicant's.

Therefore it would be prima facie obvious to one of ordinary skill in the art to substitute halogen groups for the hydrogen groups, and ester groups for the carbonyl groups, in Angelov's compounds 1 and 2. Also it would be prima facie obvious to use pyridine and/or pyridine derivatives as a base for the acylation reaction of Angelov, with the reasonable expectation of achieving the synthesis of 2-dihaloacyl-3-aminoacrylic esters in high yield. Thus, the Examiner finds Applicant's arguments to not be persuasive and the rejection is maintained.

**THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the mailing date of this final action.

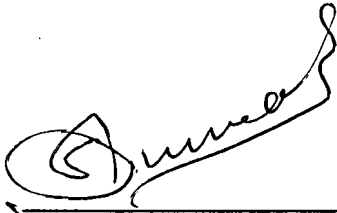
Any inquiry concerning this communication or earlier communications from the examiner should be directed to Jennifer Y. Cho whose telephone number is (571) 272 6246. The examiner can normally be reached on 9 AM - 6 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Yvonne Eyler can be reached on (571) 272 0871. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

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Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

Jennifer Cho  
Patent Examiner  
Art Unit: 1621

for   
Yvonne Eyler  
Supervisory Patent Examiner  
Technology Center 1600